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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,625	07/27/2000	Robert G. Gann	10001227-1	1161

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EXAMINER

SAFAIPOUR, HOUSHANG

ART UNIT PAPER NUMBER

2622

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,625

Applicant(s)

GANN, ROBERT G.

Examiner

Houshang Safaipoor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,9,28 and 29 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,8,10,11,13-22,24,26,27 is/are rejected.
- 7) ☒ Claim(s) 23 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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DETAILED ACTION

Response to Amendment

Applicant's response filed on April 4, 2004 has been entered and made of record.

Response to Arguments

The following is the response to applicant's arguments.

Applicant argues that Breimer fails to teach or suggest using an in-focus scan of calibration area. Examiner disagrees. Because, even though in Breimer's device the optical path between the lens system and the camera pickup arrangement is blocked during scanning of the internal test pattern, such scanning is in-focus due to the close proximity of the test pattern and the camera pick up arrangement. Furthermore, applicant argues that Breimer fails to teach or suggest a calibrating means that uses a calibration path that mimics an imaging path for imaging the scan area. Examiner agrees. However, Saund et al. discloses such a device. Please refer to the rejection of claim 15. As in regards to the lack of motivation for combining the two references, examiner disagrees with the applicant, because, both references address calibration procedure, one with external test pattern and the other with both internal and external test pattern. For the reasons stated, examiner maintains his rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 6, 7, 8, 10, 11, 13-22, 24, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saund et al. (U.S. Patent No. 5,760,925) and further in view of Breimer (U.S. Patent No. 4,513,319).

Regarding claim 1, Saund et al. discloses a look-down image acquisition system which consist of a digital camera with internal optics and array of photosensors that convert optical image data into electrical signals (col. 5, line 51 through col. 6, line 18). Although Saund et al. discloses calibration system 14 with calibration marks 15 on the surface of the platform 8 (col. 8, lines 24-61), Saund et al. does not explicitly disclose a calibration area within the look-down imaging system. Breimer discloses a camera with both internal and external test patterns to produce correction information for correction with minimal error (col. 1, line 47 through col. 2, line 16). Furthermore, even though in Breimer's device the optical path between the lens system and the camera pickup arrangement is blocked during scanning of the internal test pattern, such scanning is in-focus due to close proximity of the test pattern and the camera pick up arrangement. Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine Breimer's device with that of Saund et al., because, the combination would form a look down imaging apparatus with calibration area within the device in the proper position.

Regarding claim 3, folding the optical path of light reflected from scanned area is well known and routinely practiced in the art (Official Notice). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to fold the optical path in combined Saund and Breimer's device, because, folding the optical path would reduce the size of the apparatus..

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Regarding claim 4, Saund et al. and Breimer both disclose illumination source for illuminating the calibration area (Saund fig. 1, Breimer col. 2, lines 10-16).

Regarding claim 7, arguments analogous to those presented for claim 1 are applicable to claim 7.

Regarding claim 8, Saund et al. discloses the digital imaging device of claim 7 further comprising a scan head (fig. 1).

Regarding claim 10, Saund et al. discloses the digital imaging device of claim 8 wherein said scan head includes:

sensor for imaging an original image placed substantially below said look-down digital imaging device (fig. 1); and

lens for focusing reflected light from said original to said sensor (fig. 1).

Regarding claim 11, Saund et al. discloses the digital imaging device of claim 10 wherein said sensor is a linear sensor (col. 6, lines 6-18).

Regarding claims 13 and 14, arguments analogous to those presented for claim 3 are applicable to claims 13 and 14.

Regarding claim 15, Saund et al. discloses a system for performing digital imaging comprising:

A look-down digital imaging device that includes means for imaging a target scan area and means for calibrating said look-down digital imaging device, wherein the calibrating means uses a calibration path that mimics an imaging path to be used by said look down digital imaging device for imaging said target scan area (figs. 1, 3 and 5, col. 7, lines 35-56).

Regarding claim 16, Saund et al. discloses high resolution linear sensor (col. 6, lines 6-

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18).

Regarding claims 17 and 18, arguments analogous to those presented for claim 1 are applicable to claims 17 and 18.

Regarding claim 19, arguments analogous to those presented for claim 3 are applicable to claim 19.

Regarding claims 21 and 22 the arguments analogous to those presented for claims 1 and 15 are applicable to claims 21 and 22.

Regarding claim 24, arguments analogous to those presented for claim 1 are applicable to claim 24.

Regarding claims 26 and 27 the arguments analogous to those presented for claim 1 are applicable to claims 26 and 27.

Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saund et al. (U.S. Patent No. 5,760,925) and in view of Breimer (U.S. Patent No. 4,513,319) and further in view of Applicant's Admitted Prior Art (AAPA).

Regarding claim 6, neither Saund et al. nor Breimer discloses the method of claim 1 wherein said adjusting step comprises at least one adjustment type selected from the group consisting of adjusting imaging hardware of said digital imaging device; adjusting imaging software of said digital imaging device; and adjusting imaging software of a computer device to which said digital imaging device is coupled. AAPA discloses such an imaging device (page 3, lines 8-21). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to include the adjustment features described in AAPA in combination of Saund and Breimer's device, for proper calibration and adjustment of the device.

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Regarding claim 20, arguments analogous to those presented for claim 6 are applicable to claim 20.

Allowable Subject Matter

Claims 5 and 9 are allowed.

This is examiner's statement of reasons for allowance for claims 5 and 9.

Claims 5 and 9 recite a method of calibrating a look-down digital imaging device, said method comprising:

aligning a scan head of said look-down digital imaging device with the calibration area for performing the scanning step.

The features identified, in combination with other claim limitations, are neither suggested nor discussed by the prior art of record.

Claim 28 is allowed.

This is examiner's statement of reasons for allowance for claim 28.

Claim 28 recite a method of calibrating a look-down digital imaging device, said method comprising:

scanning an internal calibration area of said look-down digital imaging device to capture image data for said internal calibration area;

analyzing said captured image data for said internal calibration area to determine correction information, wherein said correction information is determined without use of any image data of an external calibration area; and

adjusting the imaging of said look-down digital imaging device in accordance with the determined correction information.

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Claim 29 depends on claim 28 and is allowable.

The features identified, in combination with other claim limitations, are neither suggested nor discussed by the prior art of record.

Claims 23 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Houshang Safaipoor whose telephone number is (703)306-4037. The examiner can normally be reached on Mon.-Thurs. from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L Coles, Sr. can be reached on (703)305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Houshang Safaipoor
Patent Examiner
Art Unit 2622
June 25, 2004


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